

GCK Vehicle Deviation – Category A Runway Incursion

Event Overview

A vehicle deviation occurred at GCK on March 18, 2010 at 0732 local time. Weather was reported to be VMC with a visibility of 9 statute miles, clear, and wind was from 160 at 4 Kts. Sunrise occurred at 0749 local time.

Three antelope were observed at the southeast corner of the airfield, outside the movement area. In response, an airport maintenance vehicle was cleared to enter the movement area via Taxiway Alpha and Bravo. A C560 was on a two-mile final approach to Runway 35. The vehicle chased/pursued the antelope along the north side of Runway 30, then north along the east side of Runway 35. The controller notified the C560 of the antelope and the vehicle and the C560 confirmed they had the vehicle in sight and would prepare for a possible go around. The vehicle followed the antelope across Runway 35 at the intersection with Taxiway Charlie and conflicted with the C560 that had landed same runway. The C560 then rotated and became airborne near the intersection of Runway 35 and Runway 30 to avoid the vehicle and animals. The main gear touched down before they became airborne again. As reported by the non-flying pilot, the C560 crew recognized the conflict just before touchdown and aggressively rotated, with the non-flying pilot applying additional backpressure to the controls. The rotation was early and resulted in a momentary stall warning and stick shaker. A direct overflight occurred as the truck crossed the runway in pursuit of the antelope. The closest actual vertical proximity was estimated at 10 - 20 feet. Closest proximity reported was 50 feet vertical. Distance from intersection of Runway 35/30 to Taxiway Charlie is approximately 2,000 feet. After the vehicle was initially cleared into the movement area, there was no radio contact between the vehicle driver and the controller. The C560 was not directed to go around by the controller. The driver statement indicated he made an additional radio call indicating he was heading north along Runway 35, but there was no record of it on the tower tape. The controller statement indicated that he was watching the vehicle the whole time, but believed the last minute shift of the antelope running along the shoulder to crossing the runway at "Charlie" took both the pilot and controller by surprise.

A security camera captured the overflight and was analyzed.

Information Review

The key information sources used in the analysis were:

- Tower voice recordings
- Vehicle Deviation investigation report
- Weather information
- Photos of various locations documenting the path of the vehicle and the tower cab perspective
- Security camera video
- Event animation

- Pilot statements
- Driver statement
- Controller statement
- Airport Response to questionnaire
- Airport Certification Inspector summary
- GCK Tower SOP
- GCK Wildlife Management Plan
- 14 CFR Part 139 – Airport Certification Requirements
- Letter of Agreement between the CHS ATCS, 437th Airlift Wing, and the Charleston County Aviation Authority

Summary of Key Issues

The presence of antelope on the airfield was a recent development. The GCK Wildlife Management Plan did not address antelope, and had not yet been updated after they appeared. As such, there was no SOP to address the presence of antelope on the airfield. Additionally, the airport did not have wildlife fencing installed at the perimeter of the airfield. The driver and pilot statements seemed to contradict other evidence. As mentioned above, the driver stated he made a radio call prior to driving north along Runway 35. The tower tape does not support this statement. The C560 crew stated that they saw the truck stopped in the grass along the east side of Runway 35. This contradicts the driver and controller statements, as well as the estimated event timeline. It is possible that the C560 crew perspective on approach may have given the illusion of the vehicle being stopped. The crew also stated that landing with equipment parked in the grass was not unusual, but they did prepare for a possible go around. At no time did the controller call the crew for a go around or direct the driver to exit the runway safety area. Neither the C560 crew, the controller, nor the vehicle driver identified that the increasing risk of the situation was unacceptable with regard to continuing the approach and landing. GCK has no surface surveillance systems.

RCAT Recommendations

The RCAT recommendations based on the analysis of the GCK event are as follows. The recommendations are prioritized from high to low.

1. GCK should investigate and assess installing adequate fencing at the airport perimeter.
2. All airports should review and/or revise their detailed SOP for responding to wildlife issues, including direction and procedures with respect to actions with traffic present in the airspace and on the surface, communication requirements between the vehicle and the tower, clearances, and the possibility of requiring two people per vehicle - driver and spotter, when responding to

wildlife on the airfield. This SOP should be reviewed as part of the RSAT process. (Note: The requirements of AC 150/5200-33B *Hazardous Wildlife Attractants On or Near Airports* include a similar activity.)

3. GCK should immediately update their Wildlife Management Plan. All airports should be encouraged to update any WMP when there is a change to the wildlife population make-up or activity. (Note: The requirements of AC 150/5200-33B *Hazardous Wildlife Attractants On or Near Airports* include a similar activity.)

4. All airports should consider installing GPS-based airfield moving map displays with alerting capabilities in their vehicles.

5. GCK and other airports should review the adequacy of their driver training programs. (Note: The requirements of AC 150/5210-20 *Ground Vehicle Operations on Airport* include a similar activity.)